

“Point Me to the **MONEY**”

Funding Opportunities in NRI Animal - Related Programs for FY 2007

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FUNDING OPPORTUNITIES

Request for Applications (RFA)

→ CSREES website: www.csrees.usda.gov

(Click on “Funding Opportunities”)

OR

→ National Research Initiative website

www.csrees.usda.gov/fo/funding.cfm

NRI programs will continue to have a narrowed focus



Animal-focused NRI Programs

- Animal Reproduction (Nov. 29, 2006)
- Animal Protection (Nov. 29, 2006)
- Animal Growth & Nutrient Utilization (June 5, 2007)
- Animal Genomics (June 5, 2007)
- USDA/ NSF Interagency Microbial Genome Sequencing Program (to be announced)

FY 2007 Budgets (\$ millions)

- Animal Protection (~\$10 M)
- Animal & Plant Biosecurity (~\$ 7.5M)
- Functional Genomics of Agriculturally Important Organisms (~\$ 8M)
- Animal Reproduction (~\$ 4M)
- Animal Growth & Nutrient Utilization (~\$ 4.5M)
- Animal Genomics (~\$ 12M)
- USDA/ NSF Interagency Microbial Genome Sequencing Program (~\$15M)

ANIMAL PROTECTION

(Award Size: maximum \$375,000)

Animal Disease section

**Specific diseases are listed in the RFA
(few changes from last year...)**

- Ruminants:
- Swine:
- Aquaculture:
- Equine:
- Poultry:



ANIMAL PROTECTION

Animal Disease section

Specific issues that include several diseases

- diseases introduced to livestock through wildlife interactions (no model species);
- foreign animal diseases (5 listed);
- immunology that is non-disease specific;
- immunology that works on disease justified to benefit multiple diseases



ANIMAL PROTECTION

Animal Well-Being Section

Research & Integrated Priorities:

- Science-based criteria to measure well-being (pain, stress, behavioral needs)
- Impact of current & alternative production systems on well-being & food quality (housing, handling, transportation, harvest)



ANIMAL PROTECTION

***Animal Disease* section**

For those areas listed in species and non-specific areas:

- pathogen biology
- mechanisms of host/pathogen interactions
- immunology
- etiology, control, epidemiology, and ecology



ANIMAL PROTECTION

FY 2006

- # of Proposals Submitted = 165
- # of Proposals Awarded = 31
- 19 % Success (including strengthening)
- Average Award Size = \$325,000
- Average Award Duration = 2.8 years

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Animal Biosecurity

- **Competition in FY 07:**
Invites a renewal application for the existing Avian Influenza CAP
- Integrated (research, education, extension)
- Multi-disciplinary, multi-institutional, multi-state Coordinated Agricultural Projects:
PRRS (www.porkboard.org/prrs)
Johne's Disease (www.jdip.org)
Avian Influenza (www.agnr.umd.edu/aicap)





Animal Genomics

Program Elements:

- Applied Animal Genomics
- Tools and Resources
- Bioinformatics
- Functional Genomics (not offered in FY 07)

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Applied Animal Genomics



*(Award size: maximum
\$450,000 research
\$550,000 integrated)*

Research Priorities:

- ID & mapping of molecular markers, incl. quantitative & economic trait loci (QTL / ETL)
- SNP based, cost-effective genotyping as it relates to animal identification and genetic diversity; and
- Methods to modify the animal genome (nuclear transfer, embryonic stem cells, transgenics)

Integrated Priority:

- Manipulation and management of the animal's genome through the use of molecular markers, including quantitative-trait loci (QTL), economic trait loci (ETL), and SNP.



Tools and Resources

(Award size: maximum \$1,000,000)

Research Priorities:

- **Generation of EST libraries and targeted genome sequences where either the whole genome sequence is not available or EST libraries do not exist;**
- **Generation of comparative maps (contig maps and high density linkage maps) for use in comparative genomics; and**
- **Development of high density SNP maps where these do not already exist.**



Bioinformatics

(Award size: maximum \$1,000,000)

Research Priorities:

- Tools that integrate genome sequence, genome annotations and pedigree information with biological function and phenotypic information for a single species or across multiple species; and
- Animal bioinformatics tools to efficiently and effectively handle and interpret the genomic/genetic data being generated to accelerate the knowledge discovery process.



Functional Genomics

(Award size: maximum \$750,000)

Research Priorities:

- Increase the understanding of the biological role of genomic sequence (including coding and regulatory sequences) in agriculturally important animals, and link these sequences to biological functions, product quality, or production efficiency.
 - Limited to animals with sequenced genomes (see RFA)
 - Not offered in FY 07, will be offered in FY08

Animal Genomics

FY 2005

- # of Proposals Submitted = 71
- # of Proposals Awarded = 11
- 15% Success
- Average Award Size = \$488,352
- Average Award Duration = 2.8 years



ANIMAL REPRODUCTION

(Award size: maximum \$350,000)

1. Research Priorities:

- Gonadal function, including production, function, and preservation of gametes
- Hypothalamic-pituitary axis
- Embryonic & fetal development, including interaction with uterine environment



ANIMAL REPRODUCTION

2. Integrated Priority:

- Development, delivery, and implementation of approaches or management practices to regulate fertility through manipulation or

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ANIMAL REPRODUCTION

FY 2006

- # of Proposals Submitted = 73
- # of Proposals Awarded = 11
- 15.1% Success
- Average Award Size = \$312,906
- Average Award Duration = 2.9 years





Animal Growth & Nutrient Utilization

(Award size: maximum \$350,000)

1. Research Priorities:

- Improving quality and efficiency of meat and milk production
- Mechanisms controlling nutrient intake, digestion, absorption, and availability to improve nutrient utilization and minimize endogenous nutrient waste product excretion

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Animal Growth & Nutrient Utilization

2. Integrated Priorities:

Development, delivery and implementation of approaches or management practices to:

- improve the quality of meat & milk production
- control nutrient intake, digestion, absorption, availability to improve nutrient utilization.....

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Animal Growth & Nutrient Utilization

FY 2006

- # of Proposals Submitted = 62
- # of Proposals Awarded = 12
- 19.3% Success
- Average Award Size = \$319,980
- Average Award Duration = 2.9 years



Microbial Functional Genomics

(Award size: maximum \$1 million)

Large scale gene function characterization for microbes with genomes sequenced (or nearly sequenced)

Program Priorities

characterization of mechanisms:

- of pathogenicity by microorganisms;
- of non-pathogenic interactions between microbes or between microbes and their hosts; or
- used by microorganisms to survive or respond to environmental changes

Contact: Ann Lichens-Park (apark@csrees.usda.gov)



USDA/NSF Microbial Genome Sequencing Program

Proposal Deadline – to be announced (see RFA)

- High-throughput sequencing (viruses, bacteria, archaea, fungi, oomycetes, protists, and agriculturally important nematodes)
- Development and implementation of strategies, tools, and technologies to make currently available genome sequences more valuable to the user community
- USDA-CSREES website: www.csrees.usda.gov/fo/fundview.cfm?fnum=1108

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